

Industrial Hygiene for the Farm by Mail Order

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WHEN A FARMER tries to unclog the mechanical cornpicker, does he realize the danger of keeping the power on? When he enters the silo, does he know what to do to protect himself against lethal gas? Does he know how to handle safely toxic chemicals used on the farm?

Modern farming meets a growing number of hazards. How can health agencies provide the farm with the industrial hygiene services now used in other occupations?

Up to this point, the large farm population at risk has derived little benefit from the Nation's experience and skills in industrial hygiene, partly because these services have developed along custom-tailored, high-quality lines. We shrink from suggesting to the farmer a "do it yourself" program.

Nevertheless, goods and services must flow from the producer and purveyor to the consumer. A method of extending the consumption of industrial hygiene services through a mail-order technique may merit consideration. An analysis of the problems involved in such an approach indicates that it may be possible for farm application.

In an industrial setting, we in industrial hygiene have believed that only limited delegation of responsibility to nonprofessional people can

Dr. Berry, who is associate director of the Institute of Agricultural Medicine of the State University of Iowa, Iowa City, delivered this paper in substantially the same form at the 1959 meeting of the American Conference of Governmental Industrial Hygienists.

be made and a performance level be retained that meets our exacting achievement criteria. Sacred has been the conviction that there is no substitute for knowledge, skill, and experience in setting up a sampling regimen, supervising data compilation, interpreting findings, and recommending controls.

The above are valid arguments. The dollar cost of mistakes can be considerable. Injury to health, proximate and ultimate, is a potential that continually haunts us. Resurveys may need to be made. Modification of engineering controls may be required. These are expensive. The individual responsible for a mistake can lose the support of his employer and be discredited by his confreres. This is sobering to the professionally courageous and frightening to the professionally timid.

Almost all of our efforts are unique. Individual problems are exactly that—and must be so studied and controlled. With such an approach it is entirely understandable that problem solving and routine program commitments represent the major part of established programs. With limited staff it is natural to try to do the most in the least amount of time for the greatest number of people.

This situation provides a logical explanation for finding the best industrial hygiene coverage in the larger plants and in those industries with the most acute hazards. In the larger plant, operations are likely to be more continuous. Job assignments are likely to be more specialized. Presenting the findings of studies to management and getting controls initiated is

easier if management had been faced with repeated situations of a comparable nature and is "educated" to work with industrial hygiene people.

Providing industrial hygiene services for the small plant is not easy. We swim yearly through a sea of salty tears as we deplore this lack of services and fervently discuss ways and means of providing these needed services. We concede that the plants are widely scattered and travel time is considerable. The few people employed have multiple duties. Other parameters include variations in processing, transient personnel, poor plant maintenance, lack of medical supervision, inadequate housekeeping, hand-to-mouth financing, lack of mechanization, and absence of records.

Providing industrial hygiene services to the farm is a somewhat similar but even more difficult problem. The additional parameters include a most geographically diffuse population at risk; the home and the workplace are the same; management and labor are identical; the worker may be of either sex and will range widely in age, intelligence, education, normal health status, and training for a specific job.

Further complications are that the jobs may be highly intermittent; may be performed indoors or outdoors; and may be heavily influenced by the weather and climate. They are subject to considerable variation in personal hygiene and in the availability and use of personal protective equipment. There is no separate maintenance man or operator. The farmer is both.

How can an industrial hygiene service that will meet the exacting criteria we have established be provided to a one-family operation? I have grave personal misgivings that this can ever be achieved. If we have not been able to meet the needs of the small plant, how can we meet the needs of the farmer? Will there be enough money? Enough people? Can the problems which we described be circumvented?

It seems unlikely that there will be enough money and people to do the kind of job that we have held to be acceptable by our professional standards. Our choice, then, is one of necessity. We can perform individual, high-quality industrial hygiene services and be of little help to the great mass of those who need help. The

alternative is heresy: to sacrifice quality for quantity.

Let us frankly consider how such wide coverage might be provided:

Can a system be devised for enabling the farmer to identify his problem?

If there are unusual aspects to the problem, a nonstandard situation, can it still be identified? Can a farmer describe his problem in nontechnical terms?

Can the system provide for the expert but remote appraisal of nonstandard conditions? Can control suggestions be provided to the farmer in nontechnical terms—not only so he can understand them, but so that he cannot misunderstand them?

If professional heresy can be hypothetically condoned for the moment, then one can speculate further as to how these problems of the farmer can be handled from a distance. Let us suppose that it is possible to place in the hands of the farmer a device for visual association that can assist him in identifying problem areas, real and potential, known and unknown. The device would:

- Apply specifically to individual farm equipment items and operations, or either, that are used or performed by the particular farmer to whom the device is provided.
- Be sufficiently specific so that alternative control approaches are definable by the farmer as to first cost, cost of operation, service factor, and degree of probable effectiveness.
- Provide enough option in listings of size, mounting, power source, and materials of fabrication for a fairly wide range of needs, and discuss farm-use variables such as severity and duration of exposure, weather conditions, and equipment breakdown.
- List sufficient detail for satisfactory ordering, shipping, installing, and testing.
- Indicate in advance what will be involved in maintenance, storage, multiple application, power consumption, and provide a listing of depots where expendable items and repair parts may be secured.
- Emphasize comparison and choice (management prerogatives).
- Minimize coercive overtones.
- Point out profit incentives as far as possible.

- Offer reassurance that special problems can be met through mail consultation, telephone, or (under unusual circumstances) by a personal visit from a professional.

- Make provision for services such as alterations, return-for-refund, and trade-in.

- Suggest financing methods, tax credits, amortization rates, and relationships to any legal liabilities which might be involved.

- Keep performance claims conservative. This implies building in an extra margin of safety.

Our problem can be compared roughly to that of merchandising in rural areas soon after the wide expanses of America were opened up to homesteading. Railroads and stagecoaches provided the link between villages and towns. Special needs of consumers were met by making articles on the premises. Where special skills were required, as in blacksmithing and leathercraft, artisans set up shop. For regularly used items that could be mass-produced in the industrial east there was the outlet of the general store. The general store, however, was limited in the stock it could carry as to kind, size, color, material, or other features. The distance between farm and village was considerable and trips were infrequent. A government service to the individual farm or ranch provided an answer. Rural free delivery of mail made the mail-order house possible, and the combination resulted in an effective approach that may have merit in an analogous manner for the current professional dilemma which we face.

We shall need to curb our natural response—that this cannot be adapted to industrial hygiene—and approach it with an open mind. Perhaps it can be applied to industrial hygiene, if we try.

Remember, we are directing our efforts toward the mass markets, not the carriage trade. We seek to capture the industrial hygiene build-it-from-a-kit group. What changes are in order for us to provide mail-order industrial hygiene for the farm? At the risk of losing my membership in our professional societies, I would like to present the following arguments for considering such an approach.

Farmers are not being reached. Until small plant needs have been met farmers will still be

professionally neglected. They have a problem. How can we justify any delay in providing them with a needed service, however meager?

We will do more good than harm. Those instances where untoward results from faulty choice of equipment, improper maintenance, a false sense of security, and other factors will be outweighed by acceptable control procedures.

Under certain circumstances sacrificing quality for quantity can be justified. Why can't we adapt the "weighted exposure" concept to the situation? Wouldn't a little industrial hygiene for a lot of people be as justifiable as intensive service for a few?

The Catalog

Let us assume that the arguments above have been cogent and convincing. How can we make industrial hygiene for the farm by mail order work? The following methodology is offered as the first halting step in this direction.

Concentrate first on a "catalog." Prepare material that will be most amenable to a do-it-yourself approach, for hazards that have the most serious potentials, and for the largest number of farmers.

Get the catalog into the hands of the farmer. Many avenues are available: direct mail; distribution by farm children, rural organizations, or farm extension personnel; over-the-counter from farm equipment outlets or hardware stores; or on a request basis, with the demand built up by blanketing farm communication media—magazines, newspapers, radio, and television.

Concentrate heavily on timing and lucidity. The farmer has seasonal problems. Anticipate these so he can avoid emergencies and inevitable improvisations. The material should be so presented that he can see it applies to him and his operations.

Aim for standardization, "packaged" control. Inevitably this will lead back to the manufacturer, the packager, and to sales and service outlets for farm needs. It is a laudable objective in the area of farm operations. Specifications should take precedence over the traditional faith in brand name with the added information on make and model.

If all automatic silo unloaders were reinstalled at the time the silo is filled, a built-in device would be available for eliminating exposure to silo gas. The catalog might give the following instructions for ordering a spiral, wire-reinforced, flexible, cloth duct to fit the fan discharge of a silo unloader:

Diameter. Measure outside diameter between two pieces of wood held parallel to each other as shown in figure 1. This is the inside diameter of the tube. Order next larger size.

Length. Allow for settling of 15 percent of height of silo. Calculate in feet. Add distance (in feet) from center of silo to inside wall. This is the length to be ordered.

Installation. Remove blower chute; place tube over circular fan discharge opening and clamp as shown in figure 2. Attach wall hanger as shown in figure 3. Fasten to wall at window or farthest point from any nearby building.

Operation. Make visual observation from the ground that discharge end of tube is in place. Operate unloader for 15 minutes before entering silo.

NOTE: To avoid removing silage, support unloader above silage as shown in figure 4. The support should be 4-6 inches thick and approximately 24 inches in diameter.

Summary

Justification has been attempted for departing from high-quality, custom-type industrial hygiene services in order to serve a geographically diffuse population at risk. The method proposed for such a group involves many of the techniques of merchandising by mail. General suggestions for applying such a service to agricultural operations are made.

Observance Date for Child Health Day Changed

Child Health Day will be observed on the first Monday in October beginning with 1960, instead of on the traditional May 1. The change, effected through joint congressional resolution, permits the United States to link observance of that day with Universal Children's Day, which many nations observe on the October date.

Since 1956, by agreement between the United States and the United Nations, the Child Health Day proclamation has contained references to Universal Children's Day and to the work of the United Nations and the United Nations Children's Fund.

Child Health Day has been observed on May 1 every year since 1928. Since 1935, the Children's Bureau, as requested by the Association of State and Territorial Health

Officers, has sponsored appropriate Federal activities.

States and communities frequently use the day to call attention to a particular condition affecting children or to enlist community support in improving the health of children. For example, the day was once used to initiate a campaign for immunization against diphtheria and smallpox. It has also been used to emphasize the values of birth registration, community planning, prevention of home accidents, and medical and dental examinations for children entering school for the first time.

The theme of "Child Health" in 1960 is expected to reflect the significant findings of the 1960 White House Conference on Children and Youth.